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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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07/26/2001

Man Soo Choi

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11/27/2006

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EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1731

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/890,366

Applicant(s)

CHOI ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,10-14 and 17-23 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1,10-14 and 17-23 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s) *

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22: there is no antecedent basis for "the combined passes" - it is unclear if it requires the passes are combined, or if it means "if they are combined, then the combined passes...."

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, and 10-14 and 17-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamijo 4556416.

See how Kamijo was applied in the prior Office actions.

Response to Arguments

Applicant's arguments filed 29 September 2006 have been fully considered but they are not persuasive.

It is argued that it is the Office's position that based on Kamijo, one of skill in the art would decide to make the super-fine particles into spherical particles. Examiner disagrees. Examiner can find nothing in the rejection which indicates there is a decision to make spherical particles. Moreover, there is nothing in the rejection which discusses

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converting super-fine particles into spherical particles. See the rejection for the actual basis of the rejection.

It is also argued that Office confuses particle size and mass with particle shape. However, it is unclear what the asserted confusion/error is, where it is located in the rejection (by page and line number) , or how the asserted confusion has any bearing on the conclusion of obviousness. Therefore this assertion is given little weight.

It is also asserted that Examiner made an illogical leap to equate "super-fine" with "spherical". Examiner could find no such leap in the rejection, and Applicant has not pointed out (by page and line number) where the leap is located. Examiner is well aware that super-fine particles can have substantially any shape.

It is also argued that Kamijo does not disclose the coalescence of aggregate to form spherical particles. Examiner agrees. The rejection makes such a statement in accordance with step 2 of the Graham v John Deere analysis (page 5 of the 3/30/06 Office action).

It is also argued that Kamijo does not teach particle density. This appears to be true, but not very relevant. 1) because density is not claimed 2) one would achieve substantially the same particle density that applicant does when one obtains spherical particles when performing the Kamijo process. More specifically: after one performs obvious routine experimentation to obtain the particles as fine as possible, one will necessarily get spherical particles which would result in applicant's (relative) density.

Applicant agrees with the Office's position that Kamijo is interested in reducing particle size (29 September 2006 response). The rejection is based on the inherent

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property that for a given mass, a sphere is the smallest size. Since applicant does not dispute this it is assumed that Applicant agrees with this. And thus when one aims for the smallest size – i.e. “super-fine” – one would get spherical particles – exactly as applicant got.

As to optimizing the process, applicant argues that the rejection does not indicate which specific parameters Kamijo teaches to be manipulatable. Examiner disagrees, see 3/30/06 Office action, page 6, last paragraph.

The arguments regarding independent laser control are not understood. It is understood that applicant is arguing that laser control effects energy efficiency - not spherical particles. This is not convincing. Kamijo teaches efficiency and super-fine particles. Applicant's argument is valid only if one were to ignore Kamijo's main objective – making super-fine particles. In other words –when performing routine experimentation, one may be looking to optimize energy efficiency as well as making super-fine particles – with making spherical particles is the over-whelming desire. It appears that applicant's position that one would only desire energy efficiency – examiner disagrees, one would clearly desire super-fine particles.

As to the argument that decreasing particle size does not necessarily means creating spherical particles: this is not very relevant. The rejection is based on making the “smallest particles” not merely decreasing particle size (i.e. any amount of decreasing).

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It is still further argued that Kamijo does not recognize his variables as something that affect the coalescence. Applicant does not point out why or how this has any bearing on the propriety of the rejection.

As pointed out in **MPEP 2144.05**

A. Optimization Within Prior Art Conditions or Through Routine Experimentation
Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."

Examiner sees no significant difference between laser power or temperature. It is abundantly clear that the power of a laser has an effect in nearly any process it is used. Taking applicant's position to the extreme, one would never use a laser because if it does not effect the results, then one should not use it – so as to make the process energy efficient – i.e. no energy for the laser.

Regarding claim 21, the arguments have been considered. Although applicant traverses the rejection, there is no indication of any error in the rejection of claim 21. Thus it is deemed that applicant agrees that claim 21 does not add any additional subject matter that serves to define over Kamijo.

Regarding claim 22 it is argued that Kamijo does not disclose multi-incidence of the laser beam – among other things. None of the arguments appear to be very relevant. First, the claim does not require multi-incidence (this is not to be taken as a suggestion that the claims should be include this limitation) . Second, the rejection does not rely on Kamijo teaching the other things. In other words: the arguments fail to point out any specific error in the rejection. Applicant's arguments would only be relevant if

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the Office had indicated that Kamijo taught those other things. Absent an argument as to why the lack of those other things would overcome the rejection, it is presumed that the lack does not overcome the rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

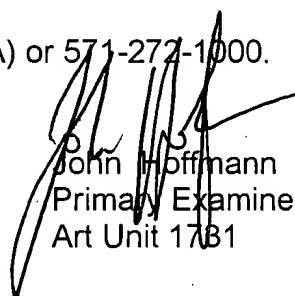
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


John Hoffmann
Primary Examiner
Art Unit 1731

11-22-06

jmh